

WHAT IS CLAIM IS:

1. A radio system that divides a certain region into two or more cells and installs a base station at about the center of each cell to carry out communication between the base station and many fixed terminal stations in the cell in which the base station is installed, wherein

each base station is divided into two or more sectors, each of which is provided with an antenna different in directivity on a horizontal plane, the antennas are so placed that the antenna beams cover all the directions on the horizontal plane as a whole, and all the antennas using the same frequency and the same polarized wave are so arranged to face in about the same direction.

2. A radio system that divides a certain region into two or more cells and installs a base station at about the center of each cell to carry out communication between the base station and many fixed terminal stations in the cell in which the base station is installed, wherein

each base station is divided into two or more sectors, each of which is provided with an antenna different in directivity on a horizontal plane, the antennas are so placed that the antenna beams cover all the directions on the horizontal plane as a whole, and two or more antennas using the same frequency and the same polarized wave are brought together as an antenna group to arrange all the antenna

groups using the same frequency and the same polarized wave to face in about the same direction.

3. A radio system according to claim 1, wherein said
5 radio system, which installs base stations to offer service in almost all the parts of the certain region using only one type of polarized wave, further installs base stations using another type of polarized wave in the existing service area.

10 4. A radio system according to claim 1, wherein all the sectors at each base station use the same frequency but two types of polarized waves together.

15 5. A radio system according to claim 1, wherein the number of sectors at each base station and assignment of frequencies used and polarized waves correspond to those at adjacent base stations.

20 6. A radio system according to claim 1, wherein said radio system uses a TDD system.

25 7. A radio communication system that divides a certain region into two or more cells and installs a base station in each cell to carry out communication between the base station and many fixed terminal stations in the cell in which the base station is installed, wherein

the base station is installed near the edge of the cell,

and

all the antennas at the base station are made possible communication throughout the same range of the horizontal direction and placed to face in the same direction.

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8. A radio communication system that divides a certain region into two or more cells and installs a base station in each cell to carry out communication between the base station and many fixed terminal stations in the cell in which the

10 base station is installed, wherein

the base station is installed near the edge of the cell,
and

all the antennas at the base station are made possible communication throughout the same range of the horizontal

15 direction and placed not to face the other stations.

9. A radio communication system according to claim 7,
wherein adjacent cells use different frequencies or different polarized waves for radio communication.

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10. A radio communication system that divides a certain region into two or more cells and installs a base station in each cell to carry out communication between the base station and many fixed terminal stations in the cell in which the

25 base station is installed, wherein

the base station is installed near the edge of the cell,
and

each cell is divided into two or more sectors, each of which is provided with an antenna, all the antennas at the base station made possible communication throughout the same range of the horizontal direction, and placed not to face the
5 other base stations.

11. A radio communication system according to claim 10, wherein adjacent sectors use different frequencies or polarized waves for radio communication.

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